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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,099	02/11/2002	Jai Young Woo	SEC.936	1563
7590 10/08/2003				
VOLENTINE FRANCOS, P.L.L.C. Suite 150 12200 Sunrise Valley Drive Reston, VA 20191			EXAMINER NGUYEN, THONG Q	
			ART UNIT 2872	PAPER NUMBER
DATE MAILED: 10/08/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,099

Applicant(s)

WOO ET AL.

Examiner

Thong Q. Nguyen

Art Unit

2872

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 14 July 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment and the request for drawing correction filed on 7/14/2003. It is also noted that the claims 5 and 15 are canceled in the mentioned amendment. The remaining claims 1-4, 6-14 and 16-17 are examined in this Office action.

Drawings

2. The drawings were received on 7/14/2003. These drawings are approved by the Examiner.

Specification

3. The lengthy specification which is amended by the amendment has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3, 9-11, 13 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al (U.S. Patent No. 4,627,009, of record) in view of Kawashima (U.S. Patent No. 5,955,739, of record) and Staehle (U.S. Patent No. 4,277,133).

Art Unit: 2872

Holms et al disclose a computerized stage assembly supporting a wafer. The stage as described in columns 2-4 and shown in figures 1-6 comprises a wafer supporting element, a first mechanism for moving the wafer supporting element in a x-direction, a second mechanism for moving the wafer supporting element in a Y-direction perpendicular to the x-direction, a third mechanism for moving the wafer supporting element in a z-direction perpendicular to the plane defined by x and y direction, a fourth mechanism for rotating and tilting the wafer supporting element in any desired position., and a computerized control system for controllable operating the movements of the stage. Holms et al also disclose that 1) the image of the wafer can be displayed in a display system (columns 1 and 5 and fig. 6); 2) each of the mechanism comprises a stepping motor for providing the power/operation of the mechanism (columns 3-4); and 3) the tilting angle and speed of tilting operation can be controlled by the user (columns 4-6). As such the computerized stage assembly provided by Holms et al meets the features recited in the claims except the feature relating to the use of optical unit for observation and stoppers for alignment the wafer on a support.

It is noted that the use of a microscope having an optical unit for viewing/observing a wafer which is located in a movable stage in three direction and also in a tilted manner is clearly known to one skilled in the art as can be seen in the microscope provided by Kawashima. See columns 5 for the details relating to the movable stage and columns 14-16 and fig. 14 for the microscope having an optical unit comprises at least one objective lens system (100) and

Art Unit: 2872

eyepiece system (98) for observation. Thus, it would have been obvious to one skilled in the art at the time the invention was made to utilize the computerized stage assembly provided by Holms et al in a microscope having an optical unit as provided by Kawashima for the purpose of providing a means for observation of the wafer located in the movable stage.

Regard to the use of two stoppers at a radius distance of a round portion of the wafer from a central pivot of the wafer as recited in claim 1 and for alignment the wafer as recited in claim 9, it is noted that the use of a stop device having two legs for keeping a slide from falling and simultaneously providing a means for alignment the slide under the field of view of an observation is known to one skilled in the art as can be seen in the microscope provided by Staehle. See columns 3-4 and fig. 1. One skilled in the art will recognize that (s)he will arrange the stop device (34, 36) for maintaining the slide (32) on the platform (28) having two curved legs (34) in a suitable position so that the legs will circle the central pivot point of the wafer on the system of Holms et al. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined product provided by Holms et al and Kawashima by using a stop device for circling the wafer as suggested by Staehle for the purpose of alignment the wafer.

6. Claims 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al in view of Kawashima and Staehle as applied to claims 1 and 9 above, and further in view of Schram (U.S. Patent No. 4,938,654, of record).

Art Unit: 2872

The combined product as provided by Holms et al and Kawashima as described above does not clearly disclose that the wafer is secured to the wafer supporting element via a vacuum chuck and a motor for generating power to the vacuum chuck; however, the use of vacuum pressure for holding a wafer is known to one skilled in the art as can be seen in the system provided by Schram. In particular, Schram teaches the use of vacuum chuck for holding a wafer by vacuum pressure. In regard to the use of a motor for generating power to operate a vacuum chuck, such use is well known to one skilled in the art as an inherent feature from the mechanism for operation in the art of Schram. Thus, it would have been obvious to one skilled in the art at time the invention was made to modify the combined product provided by Holmes et al and Kawashima by using vacuum chuck and mechanism having at least one motor for generating power to the vacuum chuck suggested by Schram for the purpose of securing the wafer to its support element.

7. Claims 4, 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holms et al in view of Kawashima and Staehle as applied to claims 1 and 9 above, and further in view of An (U.S. Patent No. 5,852,300, of record).

The combined product as provided by Holmes et al and Kawashima as described above does not disclose the use of detecting elements for detecting the presence of the wafer on its support element; however, the use of detecting elements with the movable stage for detecting a flat region/area of a wafer and thus the presence of the wafer in a wafer inspection system is known in the art as can be

Art Unit: 2872

seen in the system provided by An. See columns 2 and 5. Thus, it would have been obvious to one skilled in the art at time the invention was made to modify the system provided by Holmes et al and Kawashima by using detecting elements as suggested by An for the purpose of detecting the flat zone of a wafer and inherently the presence of the wafer on a support element for the purpose of inspecting the wafer.

Response to Arguments

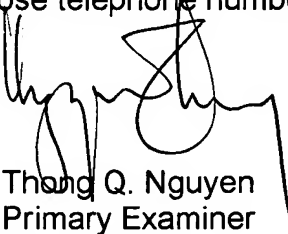
8. Applicant's arguments with respect to claims 1-4, 6-14 and 16-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
Art Unit 2872
